

# Leptospirosis

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*Disease Fact Sheet Series*

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## **What is leptospirosis and what are its symptoms?**

Leptospirosis is a zoonotic (transmitted from animals to humans) disease of worldwide distribution that is quite uncommon in Wisconsin. It is caused by several strains of a bacterium called *Leptospira*. Illness can range from mild to severe. The illness is often characterized by the abrupt onset of fever, chills, myalgias, and headache and may include conjunctivitis, abdominal pain, vomiting, diarrhea, and skin rashes. Less frequently, it can result in meningitis, liver and kidney dysfunction, pulmonary involvement, and mental confusion. Severe cases occur more commonly in older persons and can result in death.

## **How is it spread?**

Many species of wild and domestic animals (including dogs, cattle, horses, swine, rodents, swine, raccoons, and deer) are susceptible to leptospirosis and can excrete the bacteria in their urine. Their urine can then contaminate water, moist soil, or vegetation with the *Leptospira* bacterium. Humans can acquire the infection if this contaminated material contacts abraded skin, mucous membranes, or is ingested. Because infected humans can also pass the bacterium in their urine, person-to-person transmission is possible but rarely occurs.

## **Who is at risk of contracting leptospirosis?**

Although all persons are susceptible, this uncommon infection occurs mainly in persons whose occupation brings them into contact with animals or with material contaminated with animal urine. Farmers, veterinarians, slaughterhouse workers, sewer workers, and miners are at greater risk of exposure. Although rare, exposures can also occur during recreational activities such as camping or swimming, when there may be contact with or ingestion of contaminated water. Leptospirosis occurs most often in the summer and in warm climates.

## **How soon after exposure do symptoms appear?**

Symptoms usually appear 5 to 14 days after exposure, with a range of 2 to 30 days.

(Over)

### **How is leptospirosis diagnosed?**

The diagnosis can be made by culturing the *Leptospira* bacterium from body fluids (first seven days), from the cerebrospinal fluid (days four to ten), and from urine (after the 10<sup>th</sup> day) following symptom onset using special media. Diagnosis can also be made by detection of rising antibody titers in specific serologic tests such as the microscopic agglutination test (MAT). A newly developed ELISA test which detects IgM antibody is being evaluated at CDC and may have greater sensitivity early in infection than other test methods. Because of non-specific signs and symptoms during early infection, leptospirosis is frequently not considered as a diagnosis until later in illness and can compromise outbreak recognition and disease control.

### **What is the treatment for leptospirosis?**

Mild infections can be treated with oral doxycycline while more severe infections generally require intravenous penicillin. Prompt specific treatment, as early in the illness as possible, is essential. Some severely ill patients may require kidney dialysis.

### **If someone has had leptospirosis previously, can they become reinfected?**

Once a person has leptospirosis, they will be immune to another infection with that same strain of *Leptospira*. However, infection can occur with a different strain and illness may again result.

### **What can be done to prevent the spread of leptospirosis?**

For person in high-risk occupations, the use of protective clothing, boots, and gloves will minimize exposure. Similar protection should also be worn when disposing of dead animals and when gutting (cleaning) your animals or livestock. Recognizing and avoiding potentially contaminated water and soil during recreational activities, and rodent control in areas where humans and domestic animals live can also reduce the risk of exposure. Avoid swimming or wading in freshwater streams, ponds, or lakes with open cuts or sores. Avoid intake of water in the mouth when swimming in freshwater streams, ponds, or lakes. Do not drink stream, pond or lake water without boiling, filtering or chemical treatment. Drain areas that have stagnant or, standing water.